

Habitat Assessment and Surveys for the Arroyo Toad (*Bufo californicus*) within the MSCP Area

Preliminary Survey Results
2002







Objectives

- **Site selection**
- **Ground truthing**
- **Focused surveys for Arroyo Toads**

1) Site selection

Resources

- USGS 7.5' topographic maps
- TOPO© software

Characteristics

- Lotic habitat (river, creek, stream) regardless of hydroperiod
- Gradient $\leq 3\%$

2) Ground truthing

Record the presence of physical habitat characteristics that are known to be highly correlated with AT populations

- **Sandy channel substrate**
- **Adjacent sandy terraces**
- **Braided channels**

2) Ground truthing *con't*

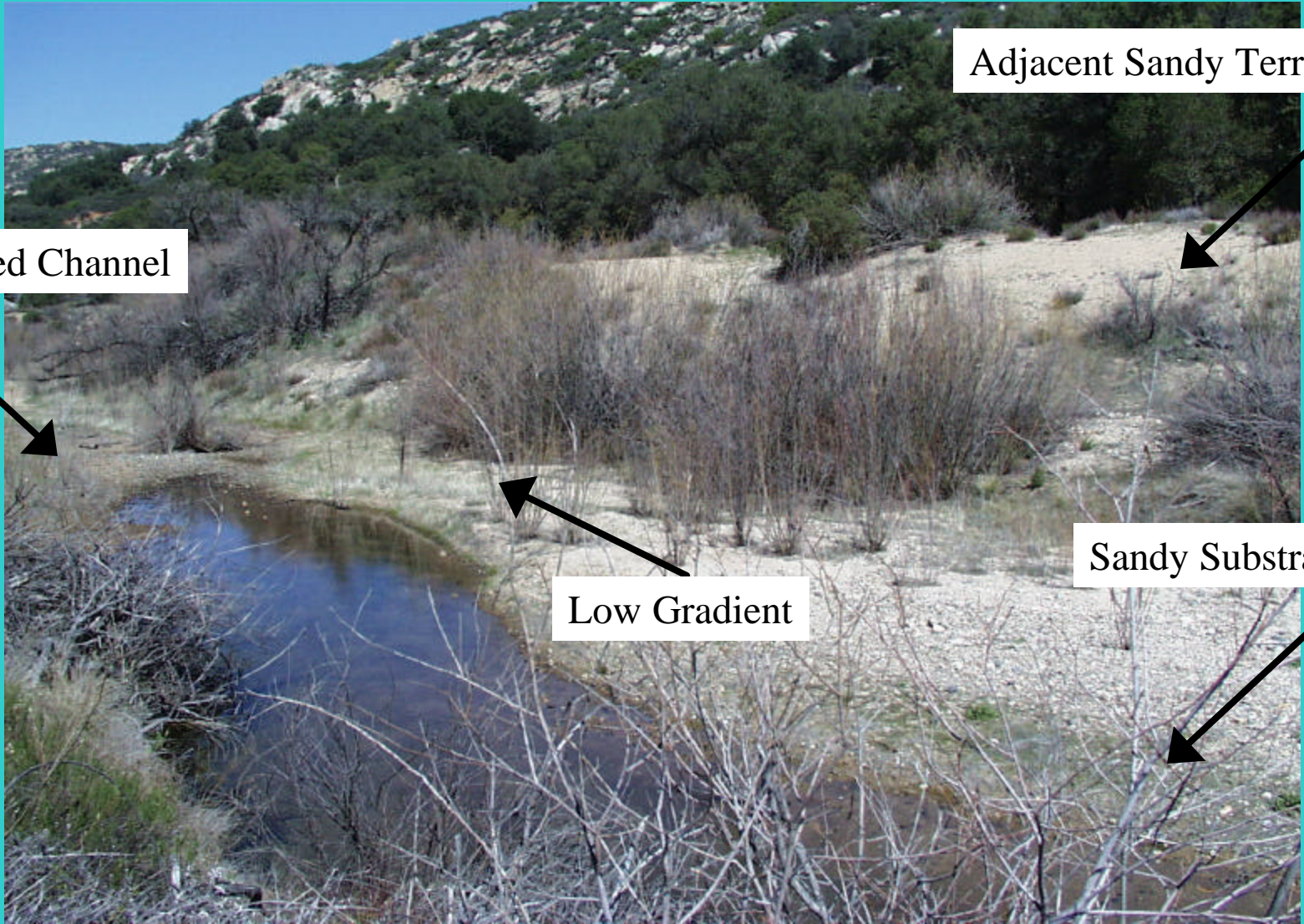
- High: = 3 % gradient with all three physical characteristics (*sandy substrate, flat sandy terraces, and braided channels*)
- Good: = 3 % gradient with two of the three physical characteristics
- Marginal: = 3 % gradient with one of the physical characteristics
- Poor: = 3 % none of the three physical characteristics

Braided Channel

Adjacent Sandy Terraces

Sandy Substrate

Low Gradient





3) Focused survey for AT's

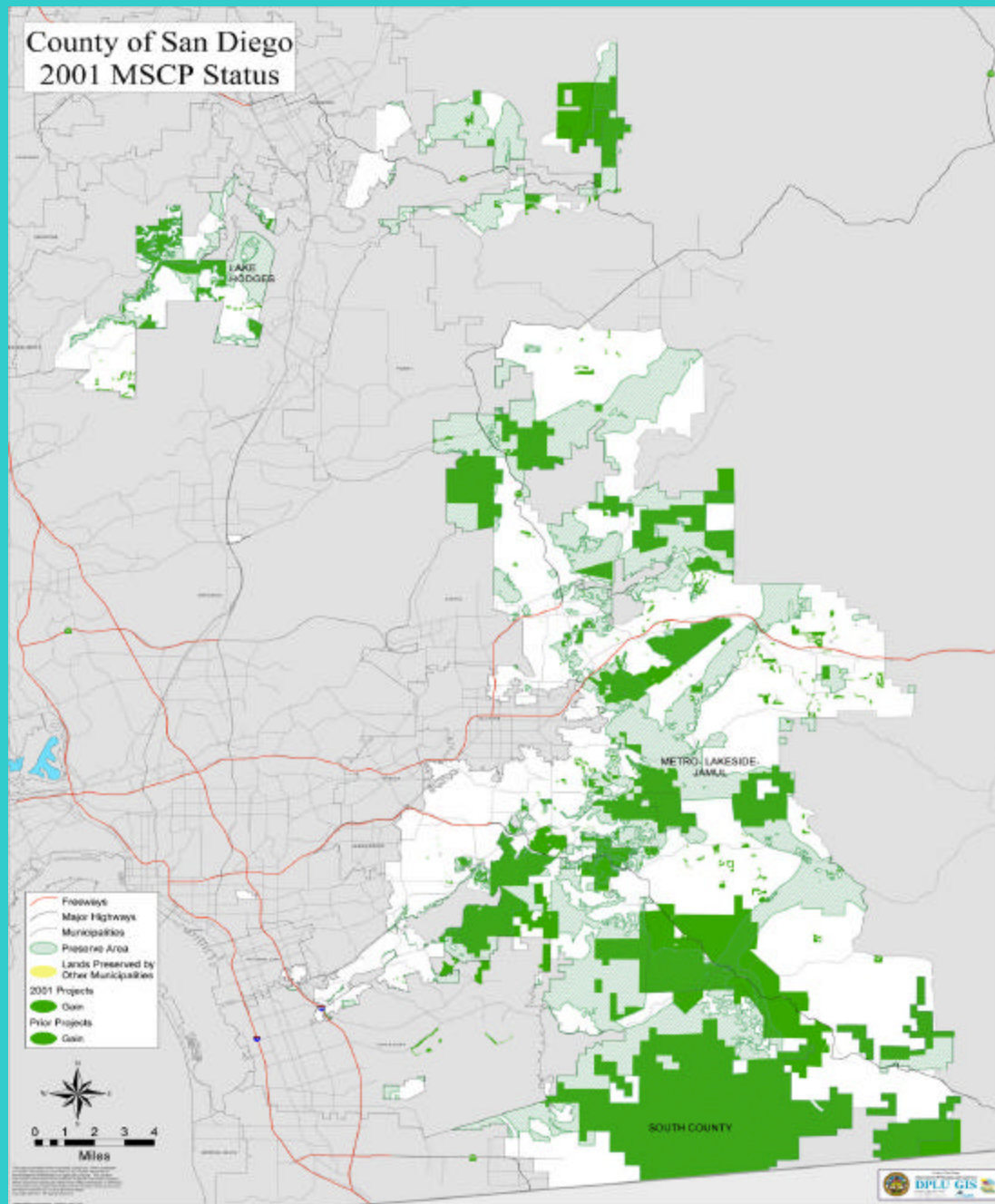
- **WHEN:** Conduct presence surveys under the most favorable conditions possible to increase the probability of the detection of AT's
- **WHERE:** Concentrate the surveys in habitat patches where AT's would be most likely detected within each site

Effort

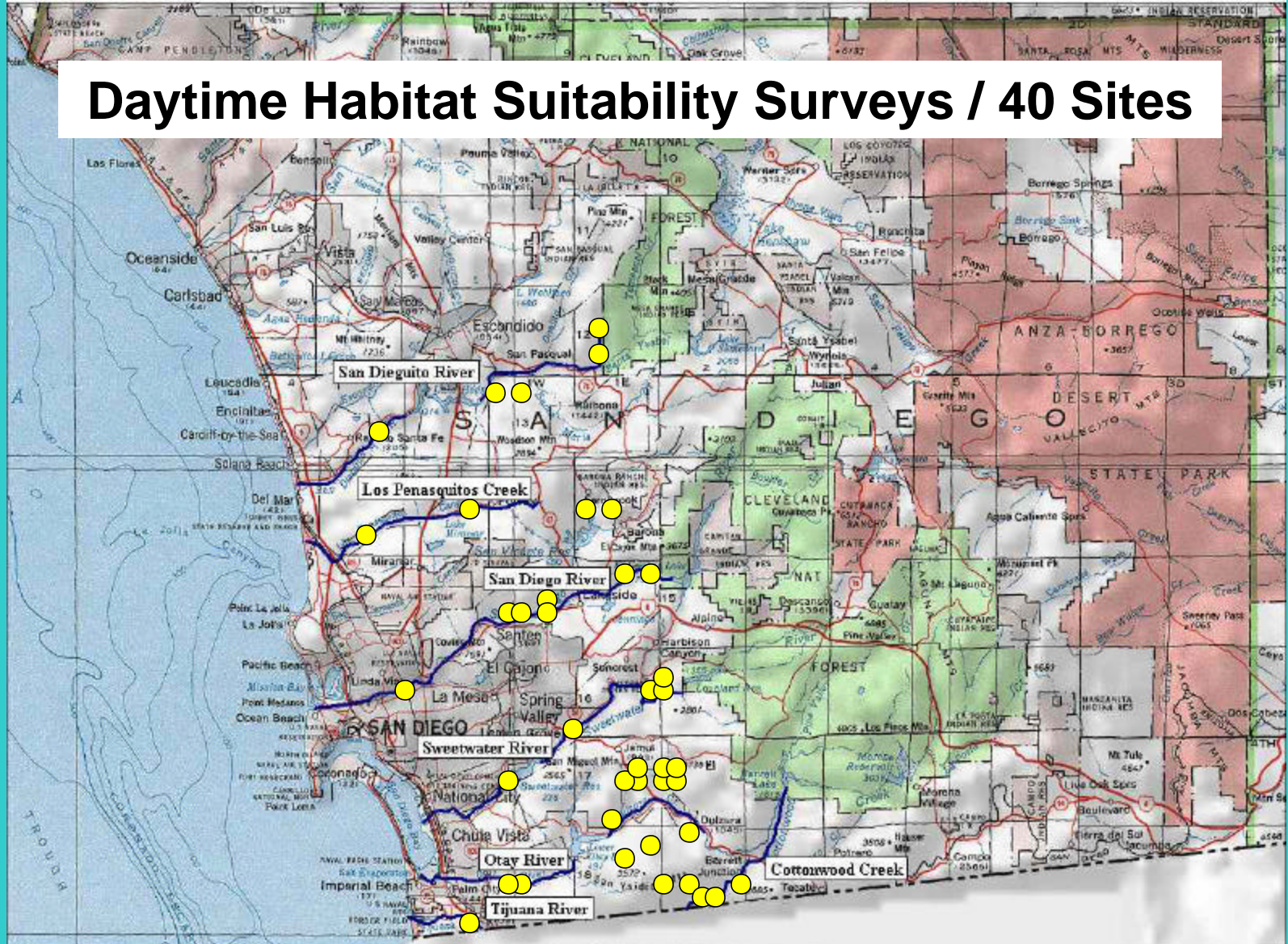
Number of sites daytime Habitat Assessment Surveys were conducted within the MSCP

- **San Dieguito River (5)**
- **Los Penasquitos Creek (2)**
- **San Diego River (9)**
- **Sweetwater River (5)**
- **Otay River (13)**
- **Tijuana River (6)**

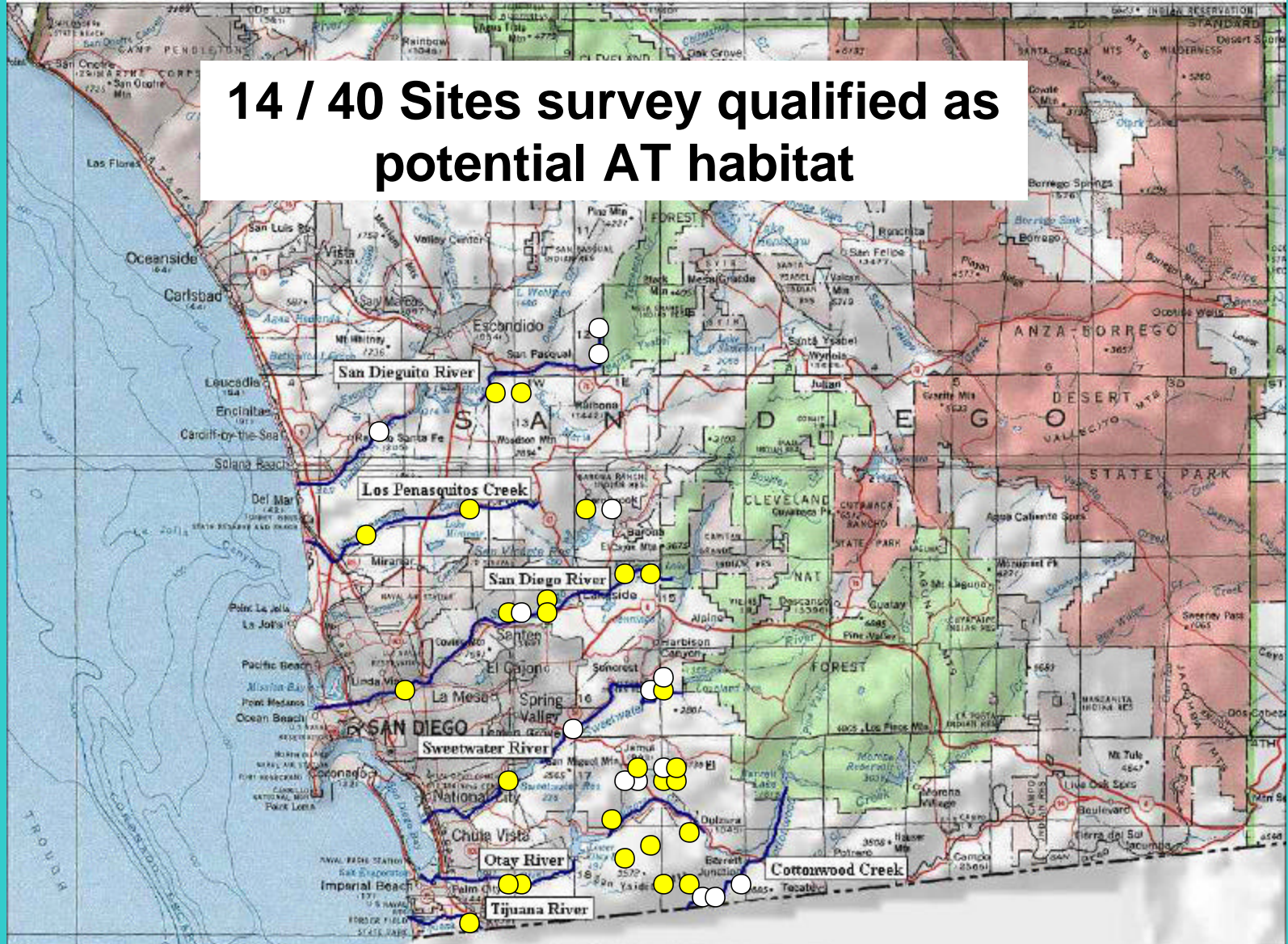
County of San Diego 2001 MSCP Status



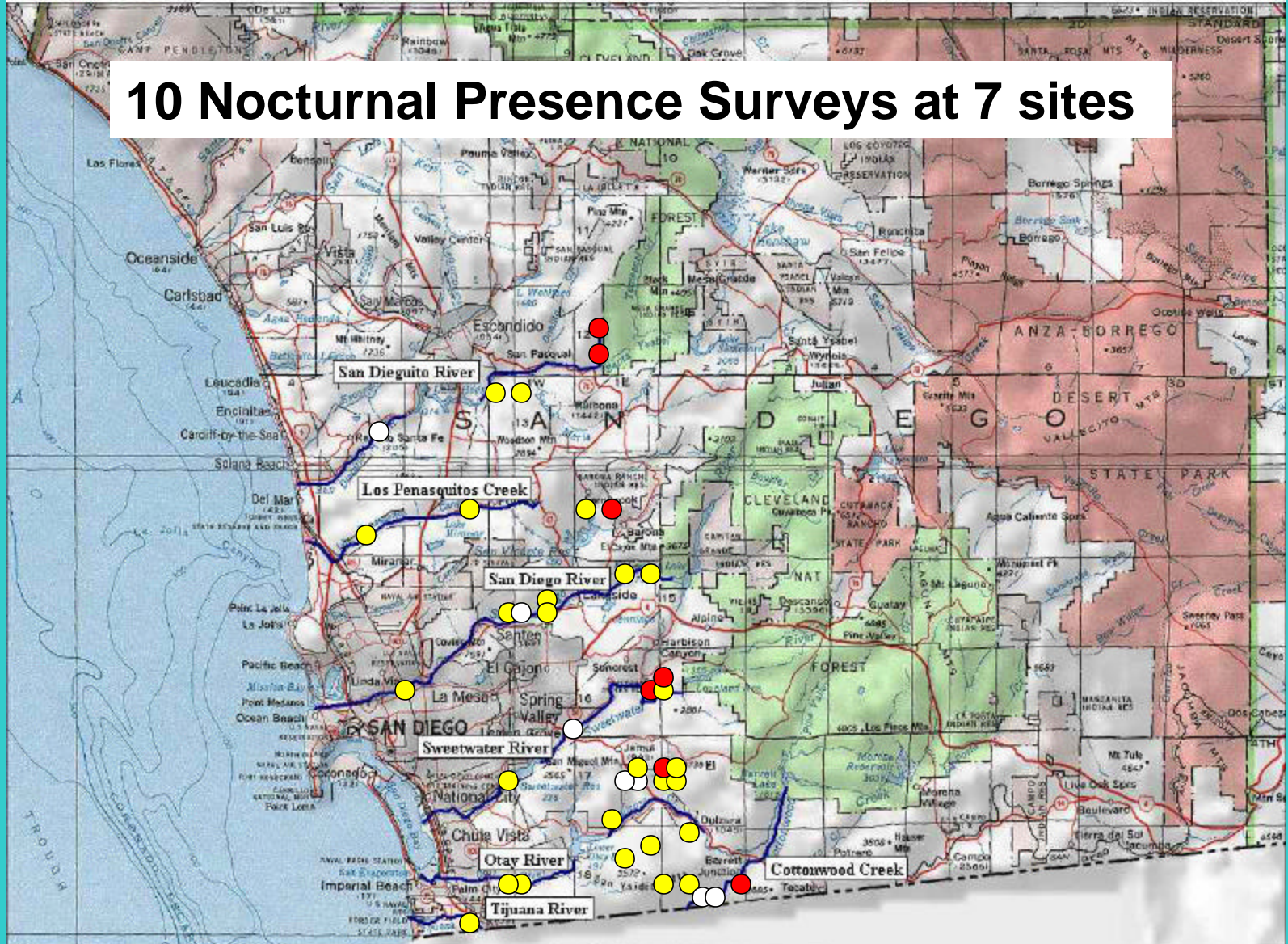
Daytime Habitat Suitability Surveys / 40 Sites



**14 / 40 Sites survey qualified as
potential AT habitat**



10 Nocturnal Presence Surveys at 7 sites



Preliminary Findings for 2002

- Identified 40 Potential Sites
- Conducted 40 daytime Habitat Assessment Surveys
- Conducted 10 nocturnal Presence Surveys (7 / 14 sites)
- Observed AT's at *Marron Valley* and *Boden Canyon*

Preliminary Findings for 2002

Species observed

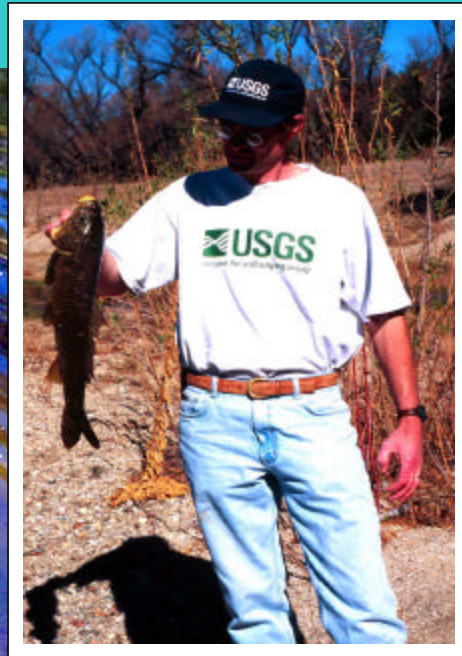
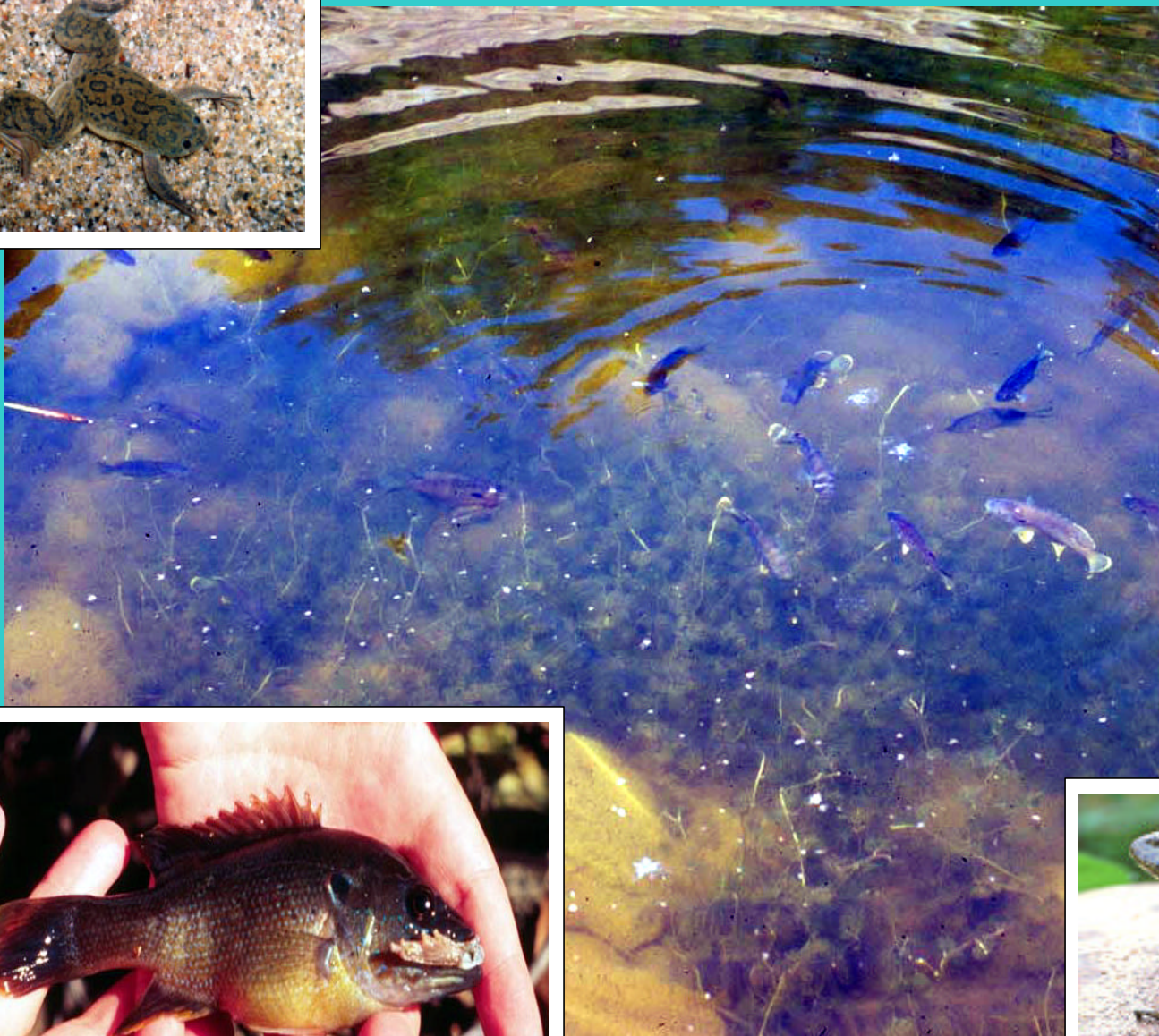
Native

- Western Spadefoot Toad
- Arroyo Toad
- Western Toad
- Pacific Treefrog
- California Treefrog
- Two-striped Garter Snake
- Western Pond Turtle

Non-native

- Crayfish
- African Clawed-Frog
- Bullfrog
- Sunfish
- Bass
- Mosquitofish
- Goldfish
- Red-eared Slider
- Wild Turkey







Threats to Arroyo Toad populations

Introduced species

Habitat loss & degradation

Dam building / Reservoirs

Groundwater pumping

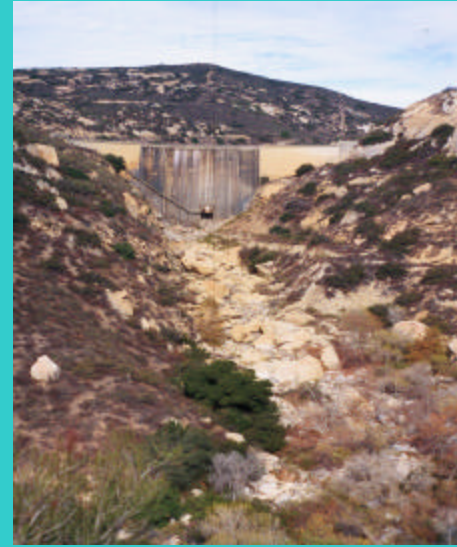
Sand & gravel mining

Livestock grazing

Roads

OHV use





Management Issues

- Preservation of upland habitats !
- Maintain connectivity between the aquatic and upland habitats
- Plan for compatible land use: minimize activities in drainage and upland habitats where AT are known to occur
- Control non-native aquatic species before and during the AT breeding season

Acknowledgements

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City of San Diego

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